

# Big Decisions on Big Boom

## The Supersonic Transport Problem Involves Noise and Cost and President Must Decide

By Joshua Lederberg

THE SST (Supersonic Transport) development program is the most intense commitment made by any government to technological innovations for civil benefit.

The President faces some crucial decisions—the winner of a design competition (Lockheed versus Boeing) for the construction of a prototype and, more important, whether to include the whole billion-dollar effort in the list of deferrable programs to meet the budget crisis.

The White House has let out several hints. Vice President Humphrey suggested that the budget may not immediately provide for further development—perhaps a trial balloon to assess the vitality of public interest in the SST.

Others have indicated growing doubts about the acceptability of current designs for overland use on account of the sonic boom problem, which catches us in a bind of technical, economic and social considerations. A design large enough to compete economically with the present jets would aggravate the boom.

The central justification for the SST is, obviously, for the longer transoceanic flights. Present policy therefore seems to be pointed toward construction of a larger prototype, leaving domestic service to further design and research. However, even the major intercontinental routes hardly avoid major populations.

A shuttle service between Gander and Shannon is rather dubious. Range may also be a critical factor: an SST limited to 4500 miles will lose much of its technical advantage over the subsonic jet for the really long hops over the Pacific or the Pole.

Most airlines have had muted enthusiasm for a development that will greatly complicate their capital financing and their scheduling problems, though it may have the advantage of damping splinter competition on international routes.

### Science and Man

EVERY PASSENGER knows that the jets have already elegantly solved the flying part of an air trip; in sharp contrast, the ground part is full of discomfort and delay. It is quite obvious, therefore, that the SST is not a response to any urgent consumer demand. Nor has there been any serious discussion of the priority that SST should have, even over related technology such as better communications.

It is rather the aircraft industry whose problems are being absorbed by the Government's commitment to the SST. Competition in air transportation has created an extremely sensitive market; quite marginal improvements in service will divert the custom. If a higher speed service is offered, no passenger will refuse it.

The United States aircraft industry is therefore mortally threatened by the Anglo-French Concorde, which might be characterized mainly as a monument to de Gaulle's grandeur, to which we are then forced to react. Our failure to settle this impasse by diplomatic negotiation is only a minor frustration in our foreign policy, but it may indeed be the one that keeps us awake nights.

The Government's assumption of the development risk for major new technology is fundamentally legitimate. My concern is not that the financial investment will be lost, but rather that it will be regained by an intangible tax widely spread through the community—the extra anxiety of an unexpected boom, the mishearing of a conversation, being awakened or disturbed in sleep.

Once we are committed to the exploitation of the SST, how will it be restrained? How do we estimate the price of sonic pollution brought to the margin of public tolerance? According to Aviation Week "personal opinions shared by many (Lockheed) officials is that the public will learn to live with booms." But what is the quality of that life?

THE DIFFICULTIES of this kind of social-psychological analysis are many. Several technical studies are under way, but they will not be available to the public before the President announces his major decisions on further development.

When parts of an organism or of a social system tend to develop according to their own rules, regardless of the whole system, we may well refer to its "technological decadence," to borrow a phrase from Michael Harrington's "Accidental Century."

Disharmonious commitments like the SST, unless tempered by balancing improvements in connected fields, may turn man into a dinosaur, trapped by his own short-term adaptations to imagined needs. As a prototype of technological decision, the SST deserves the most thoughtful attention of Congress, acting as the harmonizer of public will.

At a practical level, why not establish Washington as the center of sonic boom evaluation tests so that Congress can knowingly bear the responsibility for what will be inflicted on the whole population? If Congress is sensitized by its personal experience, we might be more hopeful that practical means of disciplining the SST boom, even at the cost of unrecovered investment, will be found.

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